

**STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION**

**Meeting Minutes
Regular Meeting
December 5, 2016
Porter Hall
Wendell Chino Building
1220 S. St. Francis Drive
Santa Fe, NM 87505**

MEMBERS PRESENT:

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| David Catanach | Chair, Oil Conservation Division |
| Robert Balch | Designee, Energy, Minerals and Natural Resources Department |
| Patrick Padilla | Designee, New Mexico State Land Commissioner |

OTHERS PRESENT:

Cheryl Bada, Counsel for the Commission

This meeting was called to order by Chair Catanach at 1:00 p.m.

Item 1. Roll Call.

Roll was taken; a quorum was present.

Item 2. Approval of Agenda.

Action: Motion to approve Agenda, seconded. Motion to approve agenda passed.
Agenda Adopted.

Item 3. Approval of draft minutes of November 10, 2016 meeting.

Action: Motion to approve minutes, seconded; passed unanimously.

Item 4. Disposition of Case No. 15437 for Caza Petroleum, Inc. application for a non-standard spacing and proration unit and compulsory pooling in Lea County, New Mexico.

Action: This case was continued to the January 11, 2017 meeting. The Commission will hold an Executive Session on January 5, 2017 to make a decision, and will announce their decision at the OCC Meeting on January 11, 2017.

Item 5. De Novo Case No. 15487: Application of the New Mexico Oil Conservation Division through the supervisor of District II for an emergency order suspending certain approved applications for permits to drill, and for adoption of a special rule for drilling in certain areas for the protection of fresh water, Chaves and Eddy Counties, New Mexico. The New Mexico Oil Conservation Division (through the District Supervisor of District II) has proposed amendment of Rule 19.15.39 NMAC to add a new Section 19.15.39.11 NMAC relating to casing and cementing of new oil or gas wells to be drilled in that portion of the Roswell Artesian Basin, in Chaves and Eddy Counties, New Mexico, overlying the Shallow Aquifer and the Artesian Aquifer, as mapped by the State Engineer. The purpose of the proposed rule amendment is to prevent introduction of fluids from other formations, or from the surface, into either of the aquifers, or into one aquifer from the other.

Action: Appearances made by: Mr. David Brooks for the OCD, Mr. AJ Olsen for the PVACD, Mr. Feldewert for COG, Op., Mr. Gary Larson for EOGY Resources,

Mr. Jim Bruce for MAC Energy, and Ms. Corrine Foster for the Independent Petroleum Association of New Mexico.

Opening statements were made by counsel: Mr. Olsen's opening statements were regarding the protection of the aquifers of the Roswell Artesia Basin; Mr. Feldewert opened by stating that the existing rules sufficiently protect the aquifers, and that he does not believe there is a need for special rules; Mr. Larson spoke pertaining to the unnecessary casing requirements, and that the special rules are duplicative and unnecessary; Mr. Bruce and Ms. Foster agreed with Mr. Feldewert and Mr. Larson.

Witnesses were sworn in.

Mr. Brooks introduced OCD's first witness, Mr. Phillip Geotze, Petroleum Geologist and Geologist for the OCD, Santa Fe office. Witness provided an overview of education and experience. Witness was qualified without any objections. Review of exhibits and testimony discussing the geology of the Artesia/Roswell Basin, and review of the proposed rule and why it would be a good idea to implement the new rule. The exhibits were tendered, accepted without any objection, and entered in to the record. The witness was passed and questioned by Mr. Olsen, Mr. Feldewert, Mr. Larson, and the Commissioners for further clarification of exhibits. The witness was excused.

10-minute break. Resumed.

Next witness was Mr. Paul Kautz, District Geologist for the OCD, Hobbs District. Witness testified that there is a need for the special rule, specific provisions of the rule, and why it would be an appropriate rule to implement. There was an overview and explanation of the exhibits. The exhibits were tendered, accepted without any objection, and entered in to the record. Witness was cross examined by Mr. Olsen, and Mr. Feldewert. Mr. Feldewert argued that the current rule was sufficient to protect the aquifers and had already been doing so. Further review and clarification of exhibits.

Recess until 8:00 a.m. tomorrow morning.

Resumed December 6, 2016, called to order at 8:10 a.m.

Mr. Feldewert continued his cross examination of witness, Mr. Paul Kautz. There was discussion about the current rule and whether the witness thought the current rule is sufficiently protecting the aquifers. The witness testified that the current rule was indeed sufficiently protecting the aquifers, but that in his opinion the proposed special rule would provide additional protection that he believes to be necessary. Witness was passed and further cross examined by Mr. Larson. Mr. Bruce and Ms. Foster did not have any questions for the witness. Chair Catanach and the commissioners cross examined the witness about the need for the proposed rule and processing times. Mr. Brooks and the witness went into further explanation of the potential circumstances in which the proposed rule would be necessary and useful. Mr. Feldewert objected stating that the discussion of possibilities without any evidence is irrelevant to the fact that the current rules are already protecting the aquifers. The witness was excused and the exhibits were tendered, accepted without any objection, and entered in to the record.

10-minute break. Resumed.

Mr. Olsen provided numbered larger print exhibits to the commission and counsel. Mr. Olsen introduced the witness for the PVACD, Mr. Jack E. Atkins, Self Employed – President of Atkins Engineering Associates, Roswell, New Mexico. Witness provided an overview of education and experience, and was qualified without any objections. Witness discussed his knowledge of the Roswell Artesia Basin, and reviewed his exhibits. Witness cited rules which he could not

specify and Ms. Foster objected to the witness using rules that the witness did not know specifically.

5-minute break to make copies. Resumed.

The rules that the witness had been referencing to were OSE – Office of the State Engineer rules. Ms. Foster noted that those rules were not pertinent to the OCD or the matter at hand. There was further overview and explanation of exhibits and witness testimony to water quality and contamination concerns and the need for the proposed rule to increase additional protection to the aquifers. No further questions from Mr. Feldewert, Mr. Larson, Mr. Bruce, and Ms. Foster. The commissioners cross examined the witness about hydrology, casing, cement circulation, water quality, leakage, and the existing rules proving adequate protection. Mr. Olsen passed the witness. Mr. Feldewert and the witness discussed more specifics about the need for the special rule. The witness was excused.

Break for lunch. Reconvened at 1 p.m.

Attorney AJ Olsen continues to presents his case, witness, Roger Perry, CPG/PG – John Shoemaker and Associates, CEO and Principle Hydrologist. Overview of education and experience. Witness was qualified without any objections. Review of exhibits. Large capacity wells 1000 GPM or higher. Shows wells designed by Shoemaker. Within the RAB, criteria for well design: Cemented conductor pipe and OSE Requirements, plus shallow casing set and cemented to surface above the Artesia Aquifer. The contamination is not only from the oil drilling but also from drilling operations. The Artesia Aquifer has a high transmissibility and is easily invaded – good quality water. The Shallow Aquifer system has a variety of water quality. Ms. Foster objected to the questioning on the speed of hydrocarbons moving through reservoirs. OVERRULED. Objection from Mike Feldewert (need foundation). Objection from Karin Foster as to type of data in the well files. OVERRULED. Paragraph C of the proposed rules: Opinion asked = cemented conductor pipe is necessary, and shallow pipe set and cemented above the Artesia Aquifer. Objection from Mr. Feldewert and Ms. Foster to the 1200 foot depth setting for the intermediate pipe. OVERRULED “if pipe is not set this way, it would result in loss of pressure and loss of quality of the reservoirs. Ms. Foster objected to the tender of Exhibit #3 – it was NOT admitted. Exhibits 1,2,4,5,6,7,8 are admitted. CROSS Examination by Mr. Feldewert: There was only sampling of some wells and not ALL wells. No reason known for setting 2 strings where 2 strings were actually set. Area of recharge is where the aquifers come together. OSE Rules only imply to set casing above the deep aquifer – actual language is “no commingling of aquifers”. 48 hour set time for cement. Debated Grout vs Oilfield Cement. Commissioner Balch: PVAB = monitor wells on NE part of the basin but not for oil and gas wells. City of Artesia = monitor wells for NMED contaminates... Data not turned in. ince >6000 wells, so likely there are some leaks. “if we over regulate, then we can’t use best practices” Perry: “If cement returns to surface, then no CBL is necessary” Water is moving West to East. Discharging to south in southern edge of the basin. Contaminants would move fast if introduced. The shallow aquifer is higher salinity in places, other places not so different than the deeper. Agriculture uses 91 percent of the water, but is lower use in the winter. Loss of Aquifer Pressure would be a bit deal – higher pumping costs. Movement is 4 to 6 times slower vertically than laterally. CBL’s are more appropriate if cement does not circulate. Mr. Olsen – RESTED HIS CASE.

Mike Feldewert presented the Respondent’s case: Carl Bird first witness: COG drilling engineer 39 years. Witness was qualified without any objection. Review of exhibits. Exh #2: Drill 11” hole and set 8-5/8” casing across the Lower Aquifer. Then 7-7/8” hole to TD. Only use 3 strings to solve drilling problems. Recent wells are 2 string design. 2 are adequate to prevent lower formations from

moving up. 3 Strings would cost 15 percent more or 150% of everything to do with drilling. Exh; 7: Lost circulation is almost common. Have never experienced a water flow across the Artesia Aquifer but lose returns in both aquifers. The lost returns heal up just by the hole cuttings. Any requirement to use 3 strings would reduce the number of wells drilled in this area and are not necessary to protect the aquifer. Requiring CBL's would cause delays in drilling and increased costs and cause confusion over whether cement is adequate. Temperature Surveys give a more accurate top of cement than CBL's and are faster and cheaper. The annular measurement should be from the hole to the OD of the Casing and not to the coupling. Need turbulence when cementing and bigger annulus is not good for achieving this. To maintain costs, need to be able to use standard pipe sizes. Mr. Olsen objected to the speculation about the previous witness. SUSTAINED. Exhibits 1 – 11 admitted. Cross exam from Mr. Brooks. Asked about surface flow and about downhole cross flow. Answers: Can drill to 1200' in 12 hours and drill/case/cement in 24 hours. Must circulate cement on the surface pipe. To repair any poor cement, you can perf 2 strings of pipe but not reliably perf 3 strings. If encounter oil/gas shows then the well is no longer in a fresh water aquifer. Cross exam by Mr. Olsen: Asked how the well design advocated by Mr. Bird would seal off the aquifers. Answer: the Cement would ensure separation. The one well in which the OCD required three strings of pipe cost over \$300,000 more to drill. The BLM does not require 3 strings. Mr. Olsen asked about whether Mr. Bird had considered the benefit to cost ratio. Redirect from Mr. Bruce: The \$300,000 is a firm number. Questions from the Commission. Answers: No mud additives used. Will not encounter hydrocarbons above 1200'. Set conductor at 80' and cement in. Approx. 90% of wells will circulate cement. Cement set time is the same for shallower depths.

Meeting called to order at 8:09 a.m. on December 7, 2016.

Mr. Jim Bruce presented his witness, Mr. Jim Krogman, Drilling Supervisor for MAC Energy. Witness was sworn in. Witness provided an overview of professional experience and was qualified with no objections. Witness testified to well design, casing, sizing, etc. To the witness' knowledge, MAC has not had any circumstances where the aquifer has been damaged in this area. Review of exhibits occurred. Witness did not believe the special rule needs to be adopted. Exhibits were tendered, accepted without any objection, and entered in to the record. Mr. Brooks cross examined the witness for further clarification about cement bond logs and contamination. No questions from Mr. Feldewert, Mr. Larson, and Ms. Foster. Chair Catanach, Commissioner Padilla, and Commissioner Balch had several follow up questions for the witness pertaining to communication between the deep and shallow aquifers, loss of circulation, monitoring, turnaround time for MAC when casing, quality control, and economics of implementing the requirements within the proposed rule, as well as standard drilling practices of most operators. Witness was passed to Mr. Brooks who had questions about turnaround time for cementing. Further discussion between the commissioners, Chair Catanach, and the witness about cementing procedures and time.

10-minute break. Resumed.

Mr. Larson presented his witness, Jeremiah Mullin, Drilling Engineer, EOGY Resources, previously Yates Petroleum. Witness provided a review of his education and experience and was qualified with no objections. Review of exhibits and testimony about casing, contamination, protection of aquifers, and economics. Witness testified that the proposed rule requirements are uneconomical and would not provide additional protection but instead would increase safety risks due to added procedures, and that the proposed rule is unnecessary. The witness was passed to Mr. Brooks and Mr. Olsen who cross examined the witness. No further questions from Mr. Feldewert, Ms. Foster, Mr.

Larson, or Mr. Bruce. Commissioner Padilla requested further clarification about cementing. Commissioner Balch and witness discussed costs. Chair Catanach had questions about hole problems and sizing. Mr. Larson and witness reviewed Exhibit 2 for further clarification. Exhibits were tendered, accepted without any objection, and entered in to the record. Witness was excused.

10-minute break. Resumed.

Mr. Larson presented his witness, John Maxie, Consultant and Petroleum Engineer retained by Lime Rock. Review of education and experience, witness qualified with no objections. Witness provided overview of exhibits and testimony about water quality, costs, and hydrological studies. There was objection to the witness testifying about hydrology because the witness was not qualified as a hydrologist or geohydrologist. Witness was allowed to speak about reports made by hydrologist but was instructed to stick to the conclusions of those reports. Further review of exhibits and testimony regarding mud logs, casing, and economics. Witness provided testimony through his exhibit and economic impact estimations that there would be a significant increase of cost to operators and that would in turn negatively impact State of New Mexico revenues. Exhibits were tendered, accepted without any objection, and entered in to the record. Witness discussed his personal connection with the impact on fresh water in the Roswell Artesia Basin.

Break for lunch. Resumed at 1:15 p.m.

Mr. Larson continued testimony with witness, Mr. Maxie. Mr. Brooks cross examined the witness and there was discussion about OCD approval for APD's and conflict with the proposed rule and communication between the two aquifers. Witness was passed to Mr. Olsen who questioned the witness about wells. Commissioner Balch, Commissioner Padilla, and Chair Catanach then cross examined the witness about costs, economic calculations, contamination possibilities, and the possibility of reevaluating a "one size fits all" proposed rule. Mr. Larson then requested clarification about an exhibit the witness created. Mr. Brooks had a question about where the protective string should be placed. Mr. Olsen required further clarification of Exhibit 10. Chair Catanach requested clarification about Mr. Brooks question to the witness about contamination. The witness was excused.

Chair Catanach addressed the public and allowed any statements to be made by the public at that time.

Ms. Karen Collins, OCD employee in Santa Fe, shared her concerns about the need for the additional protection from contamination to the freshwater in the Roswell Artesia Basin. Chair Catanach thanked Ms. Collins for her statement.

Closing statements from counsel:

Mr. Brooks stated that the loss of the proposed rule was greater than the benefit and that the use of these regulatory alternatives are to prevent communication between the aquifers.

Mr. Olsen provided a statement addressing the need to further protect the waters of the State of New Mexico. Failure of the operators to comply with the current OCD regulations are part of the reason why there is a need to consider the special rules for preventative measures. Mr. Olsen claimed protecting the water is what the proposed rule is about. He was distressed to not see the State Engineer as a part of the hearing. Mr. Olsen thanked the commission for the opportunity to participate.

Mr. Feldewert stated that he couldn't see how there is a need for special rules. He stated that the current rules are adequate and are protecting the aquifers. There is

no evidence the current rules are not sufficiently protecting from contamination. The existing rules are working and have worked. There is no evidence to support the need for all the requirements the special rule would impose. The current rules are adequately protecting the aquifers.

Mr. Larson agreed with Mr. Feldewert and stated that again, there was no evidence presented that proves that the current rules are not protecting the Roswell Artesia Basin. Mr. Larson requested that the commission deny the application.

Mr. Bruce stated that it "bugs" him that it is assumed that the oil and gas folks don't want to protect the environment, and that the proposed rule is a remedy in search of a problem. There is no evidence to prove otherwise...the current rules are sufficient. The proposed rule is unnecessary.

Ms. Foster began her closing statement by first thanking the commission. She stated that there has been no evidence of contamination. There were issues with the definition of contamination. She believed the absence of OSE was extremely telling. She believes there is no justification for the special rule.

Chair Catanach continued the case until January 4, 2017 on a Special Docket. He requested that counsel provide a Statement of Reasons and have them filed with the commission 2 weeks prior to the date of the continued hearing, by December 21, 2016. Motion to continue the hearing to January 4, 2017, passed unanimously.

Adjourned.



DAVID R. CATANACH, Chair